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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 April 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Since Fig.1 is disclosed in the background to the invention as a conventional art,

the Examiner notes that unless further explanation is given or is forthcoming by the

Applicant, Fig. 1 is considered an art with a prior data to the invention. Therefore, even

though the Applicant is unwilling to designate Fig.1 by a legend such as "Prior Art" the

conventional art is considered conventional, well-known, or commonplace art or device.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims **1-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over the

Admitted **Conventional** Art (Fig.1) in view of **Sugiyama**, U.S. Pat. No. 5,862,412.

Considering claim 1, the Admitted Conventional Art (ACA) discloses the following

claimed subject matter, note;

b) a memory for storing the bit map data obtained according to the conversion and

compress in said data processing part and image data inputted from an arbitrary

receiving part, the receiving part receiving one of digital image data and analog image

data, is met by memory 101, fig.1;

c) an image outputting part for reading the image data from the memory, is met by the

image outputting part 102, fig.1;

d) a display processing part for mixing the image data read from the image outputting

part and the bit map data converted in format by the data processing part, is met by the

display processing part 103, fig.1, which mixes the image data from the image

outputting part and text data (which may be converted into bit map data before being

storing in the memory, according to the Admitted convention art, page 4, item 19) read

from the memory.

Except for;

a) a data processing part for executing bit map conversion, compression, restoration

and format-conversion for text data;

Regarding a), the admitted Conventional art (ACA) does not specifically disclose

a data processing part for executing conversion compression, restoration and format-

conversion for text data.   However, the ACA discloses that text data is read from

memory and mixed in the display processing part, which text is bit map according to the

ACA and that the text data could be converted to bit map data before it is stored in the

memory. (ACA, page 4, lines 12-14)

Sugiyama discloses an apparatus for converting document data into bit map data

and compressing the display image formed by combining the bit map data and image

data. Sugiyama teaches that the character and picture data compression apparatus 2,

Fig.1 comprising bit map conversion section 22, bitmap data compression section 25

character data compression section 26, data storage and recording sections 27 and 28,

and data display section 29. Sugiyama further discloses in Fig.5 a decompression

section where data retrieved from the recording section is decompressed and

transmitted to the display device via the data display section. *Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of the Admitted Conventional Art (Fig.1) by providing the character and picture data compression/decompression apparatus of Sugiyama, so that the compressed bit map data takes less memory to store, thereby making the system less costly and a more compact system over all.*

Considering claim **2**, the device as defined in claim 1, wherein the data processing part comprises a bit map converter for determining whether the text data is the bit map data and converting the text data into the bit map data, based upon the determined result, and a bit map compressor for compressing the bit map data by using a predetermined compression coding.

See rejection of claim 1(a). (see also col. 5, line 54 to col. 6, line 6, Sugiyama '412)

Considering claim **3**, the device as defined in claim 2, wherein the data processing part further comprises a bit map decompressor for reading the compressed bit map data from the memory to thereby restore the read data to its original bit map data, and a format converter for converting the format of the decompressed bit map data to correspond with display resolution.

Regarding claim 3, see also rejection of claim 1(a). (see also Figures 5 and 7, and col. 2, lines 6-23)

Considering claim **4**, the device as defined in claim 1, wherein the text data being at

least one among HTML data, DHTML data, XML data, SGML data and bit map data, is

met by the disclosure in the APA that teaches the text data may be converted to bit map

data before being stored in memory 101; (see ACA, page 4)

Considering claim **5**, the device as defined in claim 2, wherein the bit map converter

converts the text data into the bit map data, if it is determined that the text data is not

the bit map data.

Regarding claim 5, as modified above the combination of the admitted

Conventional art and Sugiyama doesn't specifically disclose whether to convert the text

data if it is determined that the text data is not the bit map data. However, it would have

been obvious to modify the system to check whether or not the text data (character

data) is a bit map data and accordingly determine or decide whether to make the

conversion, so that unnecessary conversion or processing would be avoided when the

data is already in a bit map format, i.e., there would be no need for converting to bit map

data if the data is already in a such a format and this processing step would be

bypassed.

Considering claim **6**, the device as defined in claim 2, wherein the bit map converter

bypasses the text data if it is determined that the text data is the bit map data;

Regarding claim 6, see rejection of claim 5;

Considering claim **7**, the device as defined in claim 2, wherein the predetermined

compression coding is a run-length compression coding.

Regarding claim 7, as modified above the combination of the Admitted prior art

and Sugiyama does not specifically disclose a run-length compression coding.

However, examiner takes Official Notice in that run-length compression is well known in

the art and as such it would have been obvious to modify the references by using a

compression technique such as the run-length coding compression so that the DC-

balancing or DC-wondering of the signal would greatly improve.

Considering claim **8,** wherein the memory stores either first bit map data or second bit

map data, is met by the memory 101, fig.1, which stores data input to it from the D/A

converter which would be received consecutively as indicated above.

Considering claim **9**, the claimed wherein the conversion of the text data is carried out

by using either first bit map data or second bit map data.

Regarding claim 9, as modified above in claim 1, the combination of the ACA and

Sugiyama disclose bit map data conversion, compression, decompression as well as

format conversion. However, as modified above, the combination of the APA and

Sugimaya do not specifically disclose the conversion of the text data as being carried

out by using either "the first bit map data" or "the second bit map data". However,

processing the bit map data one after the other or consecutively would be obvious to

those with ordinary skill in the art. Therefore, it would have been obvious to the skilled in

the art at the time the invention was made to modify the system as modified above by

providing a consecutive bit map conversion process so that the conversion from text or

document data would be less prone to error and as a result run more smoothly.

3.   Claims **11-16, 18, and 19** are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Sugiyama**, U.S. Pat. No. 5,862,412 in view of **Horton**, U.S. Pat. No.

5,969,770.

Considering claim **11**, a data processing device in a digital TV, comprising:

a) a bit map converter for determining whether the text data is bit map data, and

converting the text data into the bit map data based upon the determined result, is met

by bit map conversion section 22 and the control section 21, fig. 1;

b) a bit map compressor for compressing the bit map data by using a predetermined

compression coding, is met by the bit map data compression section 25, fig.1; (see col.

8, lines 60-64)

c) a bit map decompressor for reading the compressed bit map data from the memory

for restoring the read data back to its original bit map data, is met by decompression

section 111, fig.5, which reads the compressed data from the recording apparatus 110,

(also in fig.5).

Except for;

d) a format converter for converting the format of the decompressed bit map data to correspond with display resolution;

Regarding d), the reference of Sugiyama discloses data display section 105, fig.5 for preparing the data for display. Sugiyama does not specifically disclose a format converter. However, format converters for bit map data such as Sugiyama's are notoriously well known in the art. In that regard, Horton discloses animated "on-screen" display provisions for an MPEG video signal processing system, and teaches a bit map OSD format converter (figs. 2 & 3) which converts YUV 4:4:4 data into YUV 4:2:2 format to conform to the desired display resolution. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Sugiyama by providing the a bit map format converter of Horton, in order for the data display section 29 transmit the data corresponding to a desired display resolution or format, so that the image is displayed properly conforming to the desired resolution.

Considering claim **12**, the device as defined in claim 11, wherein the text data is at least one among HTML data, DHTML data, XML data, SGML data and bit map data, is met by the disclosure in the APA that teaches the text data may be converted to bit map data before being stored in memory 101; (see APA, page 4)

Considering claim **13**, the device as defined in claim 11, wherein the bit map converter converts the text data the bit map data if it is determined that the text data is not bit map data;

Regarding claim 13, Sugiyama doesn't specifically disclose whether to convert the text data if it is determined that the text data is not the bit map data. However, it would have been obvious to modify the system to check whether or not the text data is a bit map data and accordingly determine or decide whether to make the conversion so that unnecessary conversion or processing would be avoided when the data is already in a bit map format.

Considering claim **14**, the device as defined in claim 11, wherein the bit map converter bypasses the text data if it is determined that the text data is bit map data.

Regarding claim 14, see rejection of claim 13.

Considering claim **15**, the device as defined in claim 11, wherein the predetermined compression coding is a run-length compression coding.

Sugiyama does not specifically disclose a run-length compression coding. However, the run-length compression is well known in the art and as such it would be an obvious matter of a design choice to modify the reference by using the notoriously well-known run-length method of compression, since applicant has not disclosed that the run-length compression solves any stated problem or is for any particular purpose,

and it appears that any type of compression method would function or perform equally well.

Considering claim **16,** wherein the conversion of the text data is carried out by using either first bit map data or second bit map data.

Regarding claim 16, the combination of Sugiyama and Horton as modified above in claim 11, do not specifically disclose the conversion of the text data as being carried out by using either "the first bit map data" or "the second bit map data". However, given a reasonably broad interpretation the processing of the bit map data using one or the other, or one bit map data after another consecutively would be obvious to those with ordinary skill in the art. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Sugiyama by providing a consecutive bit map conversion processing so that the conversion from text or document data would be less prone to error and as a result run more smoothly.

Considering claim **18,** a data processing device in a digital TV having a display, comprising:

a) a bit map converter for determining whether text data is bit map data and converting the text data into bit map data, based upon the determined result; a format converter for converting the format of the decompressed bit map data to correspond with display resolution; a bit map compressor for compressing the bit map data by using a predetermined compression coding; a bit map decompressor for reading the

compressed bit map data from the memory for restoring the read data back to its

original bit map data.

Regarding claim 18, see rejection of claim 11.

Considering claim **19**, wherein the conversion of the text data is carried out by using

either first bit map data or second bit map data.

Regarding claim **19**, the combination of the Sugiyama and Horton, as modified

above in claim **18**, disclose bit map data conversion, compression, decompression as

well as format conversion. However, the combination does not specifically disclose the

conversion of the text data as being carried out by using either "the first bit map data" or

"the second bit map data". However, processing the bit map data one after the other or

consecutively would be obvious to those with ordinary skill in the art. Therefore, it would

have been obvious to the skilled in the art at the time the invention was made to modify

the system as modified above by providing a consecutive bit map conversion process

so that the conversion from text or document data would be less prone to error and as a

result run more smoothly.

4.   Considering claims **10, 17 and 20,** the claimed wherein the format converter

adjusts the resolution by integrating real number times to either a horizontal direction or

a vertical direction of the decompressed bit map data;

Regarding claims 10,17 and 20, the examiner takes Official Notice in that format

converters are notoriously well known for adjusting the resolution of an image signal in

both the horizontal and vertical positions, such resolutions as **1920x1080, 1280x720,**

640x480, or **704x480,** etc., in either the **16x9** or **4x3** aspect ratio, and therefore it would

have been obvious to the skilled in the art at the time the invention was made to modify

the conventional art or Sugiyama by providing a format converter in order to realize a

desired resolution to display on the display device.

Response to Arguments

5.   Applicant's arguments filed April 22, 2004 have been fully considered but they

are not persuasive.

Applicant's Arguments

a) This alleged motivation is nothing more than a broad conclusory statement about

compression and decompression of bit map data which did not motivate the developers

of the conventional art to modify the conventional art and does not constitute "evidence"

of proper motivation to make the alleged modification of the Conventional art...The

office action does not make out a prima facie case of obviousness ...

b) Sugiyama is concerned with "document data", and is not concerned with digital TVs

that receive TV broadcasts. The office action fails to explain why one of ordinary skill in

the art would look to Sugiyama to modify the convention TV display for TV broadcasts.

c) Furthermore, there is no indication of record that the conventional art has a problem

to be solved.

d) In the first place, Sugiyama does not disclose a "digital TV having a display" as

recited. In the second place, Sugiyama does not disclose a format converter for

converting the format of the decompressed bit map data to correspond with display

resolution.

e) The office action fails to explain why one of ordinary sill in the art would be motivated

to use Horton's digital satellite television system using packet streams which does not

address changing display resolution to modify Sugiyama.

Examiner Response

a) On page 3 of the specification, the applicant admits that, "Fig. 1 illustrates a

conventional image display device in a digital TV." The term "Conventional" means

according to Merriam Webster's Collegiate Dictionary, 10th edition, (a) "according with,

sanctioned by, or based on convention; (Convention means an established technique,

practice, or device). (b) lacking originality or individuality: trite; (3) ordinary,

commonplace. Therefore, the admitted conventional art or device is a well-known,

commonplace device or art. Thus, the rejection still applies.

b) Contrary to Applicant's assertion, Sugiyama deals, not only with converting document

data, but also with "moving picture data of the bit map form" as well, and explains that "a

display image composition section composes the document data of the bit map form,

still picture data of the bit map form and <u>a first one frame of moving picture data into a</u>

<u>display image of the first page, and then produces, for each of the succeeding frames, a</u>

<u>display image wherein the moving picture data portion in the display image of the first</u>

<u>page is replaced with moving picture data of the frame.</u> (see abstract) (emphasis

added by examiner)

c) The problem of having large memory space can be cited, as Applicant himself shows

on page 7 of the specification.

d) First of all, the claims do not recite "the bit map converter for digital signal in a digital

TV..." The claims simply recite "the bit map converter" which can be used anywhere,

and necessarily on digital TV signal only. Thus, applicant is arguing something that is

not present in the claims. Secondly, applicants may not attack references individually

when the rejection was made in combination of two or more references as in this case.

The combination shows that the Sugiyama reference would have been obvious to the

skilled in the art to modify with a format converter of Horton's.

e) The reference of Sugiyama discloses data display section 105, fig.5 for preparing the

data for display. Sugiyama does not specifically disclose a format converter. However,

format converters for bit map data such as Sugiyama's are notoriously well known in the art. In that regard, Horton discloses animated "on-screen" display provisions for an MPEG video signal processing system, and teaches a bit map OSD format converter (figs. 2 & 3) which converts YUV 4:4:4 data into YUV 4:2:2 format to conform to the desired display resolution. Therefore, it would have been obvious to modify the system of Sugiyama by providing the a bit map format converter of Horton, in order for the data display section 29 transmit the data corresponding to a desired display resolution or format, so that the image is displayed properly conforming to the desired resolution.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kim, U.S. Patent No. **6,788,347** discloses an HDTV down-conversion system comprising format converter "which may be programmed to use a plurality of methods to convert the aspect ratio of the input signal for display on a display device having a different aspect ratio."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

PAULOS M. NATNAEL
PATENT EXAMINER

PMN
December 6, 2004